

S.N. 10/073,241

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REMARKS

Withdrawal of the finality of the last Official Action and formal acceptance of the above amendments as a Submission In connection with USPTO RCE practice is respectfully requested.

By the above-made amendments, claims 9-28 are pending of which independent claims 9, 13, and 21 as well as dependent claims 23 and 25 are currently amended. The amendments being made to the claims are in consideration of further defining the invention including to more clearly highlight architectural/structural differences between the present invention and that taught by Porterfield (U.S. patent 6,349,347), cited in the final rejection. In this regard, each of the currently pending independent claim groups, i.e., claims 9-12 and 20, claims 13-19, and claims 21-28, covers a scheme in which each one of plural plug-in units of a corresponding computer system is monitored locally, i.e., each has a self-monitoring capability through the action of, for example, the watchdog timer and interface circuit (the interface circuit may contain the watchdog timer). As can be seen from the respective Independent claims 9, 13 and 21, a separate interface circuit is connected to each of the plug-in units.

In particular the invention is a method for improving the reliability of a computer system which includes a bus and plug-in units coupled to the bus, the method comprising providing to each of plural plug-in units a separate interface circuit such that each of the plug-in units is connected to the bus via a separate interface circuit corresponding thereto; addressing a respective plug-in unit via the bus, by addressing operations directed at the respective plug-in unit and which are monitored by the interface circuit corresponding thereto; performing a time duration operation of addressing of the plug-in unit; and checking the state of addressing of

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the addressed plug-in unit such that (i) when the addressing is ended before expiration of predetermined period of time, the time duration operation of addressing is terminated and a new time duration operation of addressing is set to commence at time of next occurrence of addressing, and (ii) when the duration operation of addressing exceeds the predetermined time period, the addressing to that plug-in unit is terminated by the interface circuit corresponding thereto by sending into the bus a signal indicating termination of addressing. Independent claim 9 as well as corresponding dependent claims 10-12 and 20 feature the method according to the present invention. An example discussion regarding the method of monitoring individual ones of plural plug-in units of a computer system is shown with regard to Fig. 3 of the drawings and discussed on page 9, line 34, et seq. of the specification. Additional discussion is found on page 3, lines 7, et seq. and line 26, et seq. and the description regarding Figs. 1a, 1b and 2 of the drawings. Regarding dependent claims 11 and 12, see the example related discussion on page 7, line 22, et seq. and line 29, et seq., of the specification.

According to further aspect, the invention is directed to an interface circuit for providing local-monitoring (e.g., self-monitoring) capability to respect individual ones of plural plug-in units of a computer system, wherein a separate interface circuit is provided to connect each of the plug-in units to the computer system bus and comprises a watchdog timer, first means for activating the watchdog timer upon start of an addressing operation directed to the plug-in unit corresponding thereto, and second means for sending into the bus a signal indicating termination of addressing, the termination of addressing being effected when the duration of the addressing exceeds a predetermined time duration for addressing, as measured by the watchdog timer. Claims 13-19 set forth such a separate interface circuit scheme in connection with each of plural plug-in units of the computer system. The

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independent claim 21 as well as the corresponding dependent claims thereof likewise set forth a computer system including a self-monitoring scheme associated with each of the plural plug-in units. Regarding the set forth "watchdog timer" examples thereof are shown with regard to Figs. 1 and 2 of the drawings and is also discussed on page 6, line 19, et seq. Regarding the set forth "first means", the discussion on page 6, line 33, et seq. represents an example illustration thereof with regard to Fig 1B of the drawings. Regarding the set forth "second means", an example thereof is found on page 3, line 14 et seq. as well as on page 7, line 11 et seq. of the Specification, although not limited thereto.

It is submitted, the invention according to claims 9+, 13+ and 21+ was neither disclosed nor could have been suggested from Porterfield's teachings.

According to the reading of independent claim 1, the schemed method calls for, among the featured aspects thereof, addressing operations which are targeted to respective ones of plural plug-units are monitored by a separate interface circuit corresponding to that plug-in unit. Such, it is submitted, was neither disclosed nor suggested by Porterfield. In the invention according to the independent claims 1, 19 and 27 and more particularly according to the corresponding dependent claims thereof, each of the plural plug-in units in the computer system is associated with a separate interface circuit. Each interface circuit associated with a plug-in unit may be implemented, practically, as a separate component operatively connected to its corresponding plug-in unit (device) and, alternatively, may also be implemented as a part of the plug-in unit, i.e., contained within the individual plug-in device (see dependent claims 19 and 27 and page 6-11, of the specification).

According to the present invention, addressing operations directed at anyone of the plug-in units of the computer system are monitored by the corresponding interface circuit connected thereto, which is in clear contradistinction with

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Porterfield's centralized monitoring scheme. Consistent with the presently claimed subject matter, if the interface circuit detects that the duration operation of addressing exceeds the predetermined time period, i.e, it exceeds the time limit of the preset addressing cycle, it terminates the addressing by sending into the bus a signal indicating determination of addressing (e.g., SERR# signal, see page 7 line 27 et seq. of the specification).

According to Porterfield's teachings the compatibility bridge 220 (e.g., see Fig. 2) takes care of the signaling of the configuration cycle between two different host busses. When it becomes aware of a malfunction of one or more of the peer devices connected to the bus, it terminates the signaling of the faulty peer device and prevents, for example, the malfunction in the system startup. Porterfield's monitoring technique is more extensively discussed in the remarks on pages 11-12 of the responsive amendment dated march 9, 2005, which are incorporated herein for purposes of this discussion. It is emphasized, the technique employed regarding the configuring of the respective peer devices in Porterfield is performed by one and the same device, i.e., the compatibility bridge 220. This is because Porterfield's technique is directed to a centralized solution for improving the system's initialization procedures. The compatibility bridge 220 in Fig. 2 of Porterfield monitors a plurality of other peer devices, which is clearly unlike that of the present invention in which the plug-in units are monitored locally, i.e., each has a self-monitoring capability through the action of, for example, the watchdog timer and interface circuit (the interface circuit may contain the watchdog timer).

As emphasized in the above discussion, the present invention is directed to a self-monitoring scheme with regard to respective ones of plural plug-in devices of a computer system, for example, in which each such plug-in device monitors itself as to the addressing function directed thereto. On the other hand, it is clearly apparent

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that Porterfield's disclosure is directed to a more centralized evaluation. With regard to this, it is noted from the discussion under the heading "Response to Arguments", under Item 3, on page 7 of the outstanding Office Action, that the Examiner appears to agree that the compatibility bridge of Porterfield is the device that is in control of the configuration of the peer devices, including, presumably, the centralized control of the addressing function.

It is submitted, therefore, the invention as now defined according to claims 9+, 13+ and 27+ not only could not have been anticipated from Porterfield, but, moreover, could not have been suggested therefrom. Therefore, insofar as presently applicable, the previously standing final Office Action rejection under 35 U.S.C. 102(e), in view of Porterfield, is traversed and reconsideration and withdrawal of the same is respectfully requested.

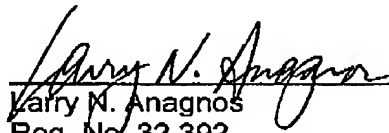
Withdrawal of the previous finality as well as examination and favorable action on all of the presently pending claims, i.e., claims 9-28, as well as an early formal notification of allowability of the above-identified application is respectfully requested.

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To the extent necessary, applicants petition for an extension of time under 37 CFR §1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including Extension of Time fees, to the Deposit Account of Antonelli, Terry, Stout & Kraus, LLP, Dep. Acct. No. 01-2135 (1154.41135X00), and please credit any excess fees to such deposit account.

Respectfully submitted,

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